Lean Six Sigma (LSS) Overview

23-August-2005

MCBEO Mission/Vision

MCBEO Mission:

The mission of the MCBE Office is to improve Marine Corps business practices and processes in support of the warfighter by providing support services,information, and training.

MCBEO Vision:

Recognized leader of business improvement results.

LSS Mission:

The mission of Lean Six Sigma deployment within the Marine Corps Business Enterprise is to provide a framework for achieving the MCBEO's mission.

LSS Overview

SECNAV and CNO have jointly established the need to use Lean tools in furthering the goals and objectives of the Navy. ASN (RD&A) has set forth policy requiring each program to conduct Lean Six Sigma events

- OSD Lean Report

2004

Lean
Reduces Steps in a Process Using Kaizen and Toyota Proven Methodologies

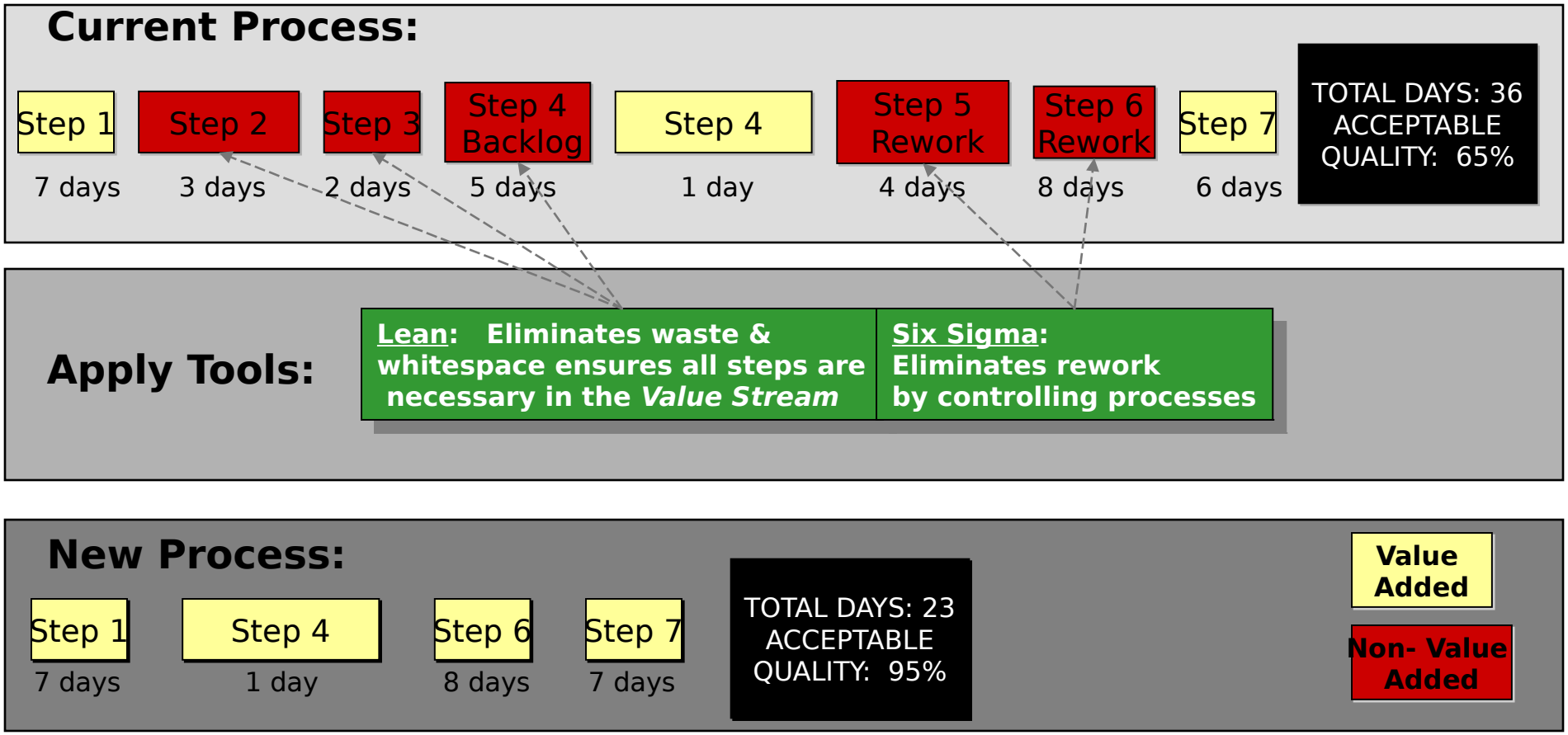
Six Sigma
Reduces Variation in a Process and Improves Quality using DMAIC (Define, Measure, Analyze, Improve, Control) Methodology

LSS Examples

Organization	Improvements
NAVAIR	NAVAIR Depot North Island Component: •Improved average component turn-around time from 50 days to less than 3 days, a 30% reduction (in 3 months) •Reduced G-Condition (Material Delay Status) components from 2105 to 501, a 76% reduction (in 15 months)
NAVSEA	Pearl Harbor Naval Shipyard and Intermediate Maintenance Facility: •Waste disposal cost reduction of 78% •Annual waste disposal cost avoidance of $330K
Office of Naval Research	F/A-18 E/F Engine Fuel Display (EFD) •Reduced EFD unit price by 48% in a 15 month program •Improved Mean Time Between Failures from 7,500 hours to 10,000 hours •Increased factory capacity without building through waste elimination by 30%
Marine Corps Maintenance Center, Albany - Application of TOC and Lean to Maintenance Process	•MK48 repair cycle time reduced from an average of 167 days to an average of 58 days •LAV-25, reduced average repair cycle time from 212 days to 119 days. All other products have shown similar reductions •Cost to repair products has been reduced up to 25 – 30 % in real, inflation adjusted dollars, reflected mainly in reduced overtime

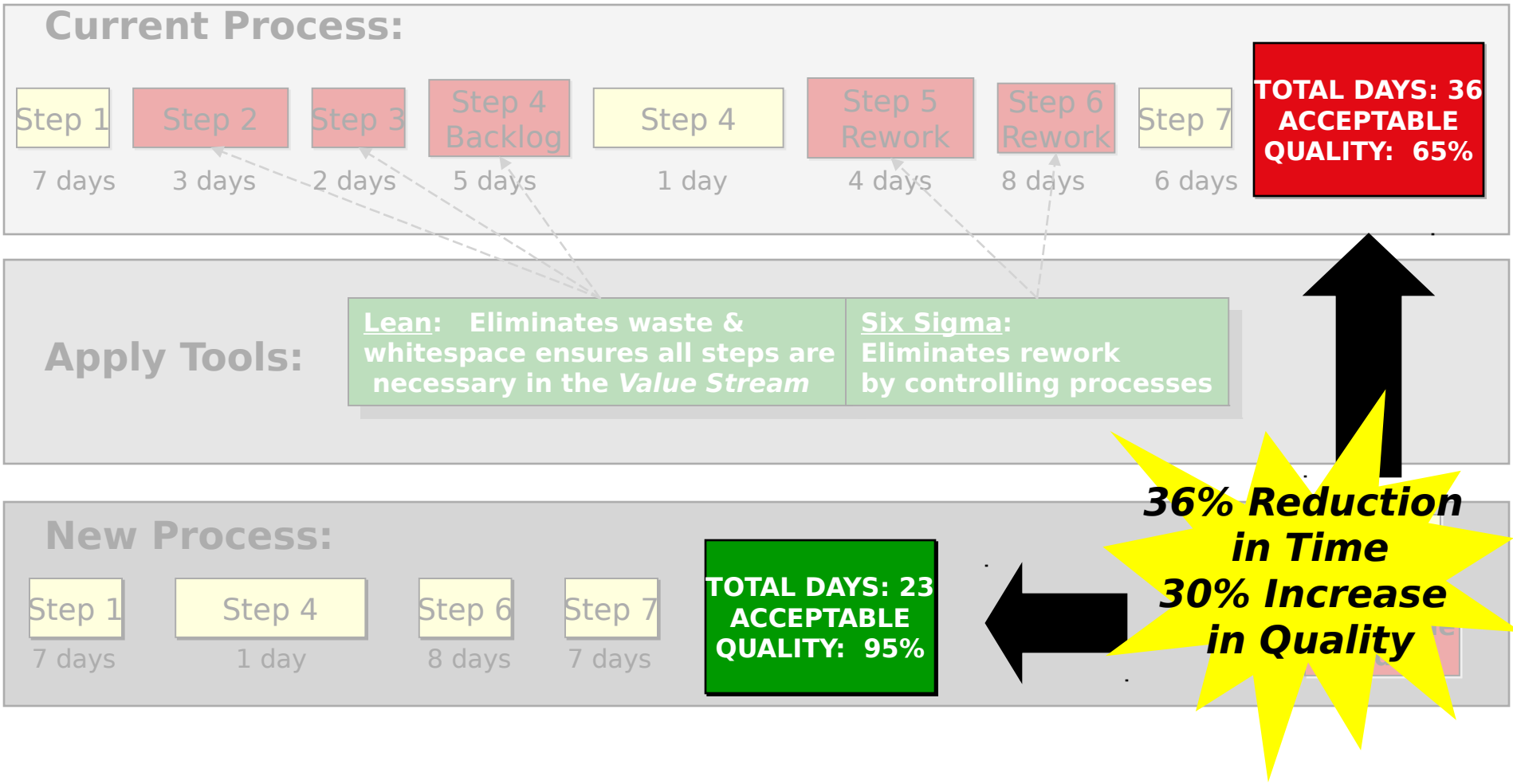
Adopting *Enterprise Excellence*

Within the Marine Corps



Adopting *Enterprise Excellence*

Within the Marine Corps



MCBE LSS Structure

EXECUTIVE CHAMPIONS
PROJECT SPONSORS
DEPLOYMENT CHAMPIONS
Business Enterprise Employees:
• Work with project team members to provide information and data as needed
• Submit ideas for BB projects through BPO
• Understand objectives of LSS
PROJECT TEAM MEMBERS
MASTER BLACK BELTS
GREEN BELTS
BLACK BELTS

MCBE LSS Plan

Preliminary Plan:

- **Train Core Team First**
- **Develop Broader Implementation Plan for Training Throughout Marine Corps**
- **Over Next Three Years Build Knowledge Throughout MCBE Organization for Common Approach to Process Improvement**
- **LSS Projects Last No Longer than 4-6 Months**
- **LSS Events Last No Longer Than a Few Weeks**

Levels of Training:

- **Executive Champions**
- **Deployment Champion**
- **Project Sponsor**
- **Project Team Member**
- **Master Black Belt**
- **Black Belt**
- **Green Belt**

BACKUP

LSS Principles

Lean

- "Focuses on maximizing process velocity
- Provides tools for analyzing process flow and delay times at each activity in a process
- Centers on the separation of "value-added" from "non-value-added" work with tools to eliminate the root causes of non-value-add activities and their cost
- Provides a means for quantifying and eliminating the cost of complexity"

Six Sigma

- "Emphasizes the need to recognize opportunities and eliminates defects as defined by customers
- Recognizes that variation hinders our ability to reliably deliver high-quality services
- Requires data-driven decisions and incorporates a comprehensive set of quality tools under a powerful framework for effective problem solving
- Provides a highly prescriptive cultural infrastructure effective in obtaining sustainable results
- When implemented correctly, promises and delivers $500,00+ of improved operating profit per Black Belt per year"

Taken from: Lean Six Sigma for Service Michael L. George, 2003